

WHAT IS CLAIMED IS:

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1. A method of making a universal gas combustion chamber for use in a plurality of different gas fireplace units, comprising the steps of:

5 mixing refractory ceramic fibers (RCFs) with a solution of silica binder to form a thick paste slurry, molding said thick paste slurry into a plurality of panels comprising a floor panel and a top panel, firing said panels to form non-porous impact resistant panels of a gas combustion chamber, 10 assembling said plurality of panels into a gas combustion chamber, and sealing the joints between said panels to form an integrated reinforced non-porous gas tight gas combustion chamber.

2. A method as set forth in Claim 1 wherein the step of mixing refractory ceramic fibers with a binder comprises mixing vitreous alumina silicate fibers with an aqueous solution of silicate binder.

3. A method as set forth in Claim 2 which further includes the step of machining an opening in at least one of said panels.

4. A method as set forth in Claim 3 wherein said step of machining an opening in at least one of said panels further comprises the step of punching an exhaust stack aperture in said top panel.

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5. A method as set forth in Claim 4 wherein said step of machining an opening in at least one of said panels comprises the steps of punching gas port apertures in said floor panel.

6. A method as set forth in Claim 1 which further includes the steps of,  
providing grooved recesses in said top panel and said floor panel,

5 providing sidewall panel means, and  
fitting said sidewall panel means into said recessed grooves to complete said non-porous gas tight combustion chamber.

7. A method as set forth in Claim 6 wherein said sidewall panel means comprises a continuous joint free sector of reinforced non-porous fibers.

8. A method as set forth in Claim 7 wherein said sidewall panel means comprises a plurality of substantially flat sidewall panels, and

5 overlapped the mating edges of said sidewall panels to form a gas tight joint.

9. A method as set forth in Claim 7 which further includes the step of sealing the joints between said sidewall panels by applying a high temperature putty like cement in the joints to be sealed.

10. A method as set forth in Claim 9 which further includes the step of,

reinforcing edges of mating panels with metal corner brackets.

11. A method as set forth in Claim 1 wherein the step of sealing the joints between panels comprises applying a high temperature adhesive in the joints between panels, and

curing said adhesive to form a bonded and sealed joint structure.

12. A universal combustion chamber for use in a plurality of different types of fireplaces comprising,

a floor panel,

a top panel,

side wall panel means,

said floor panel, said top panel and said side wall panel means each comprising a mixture of vitreous alumina silicate fibers and an aqueous solution of silicate binder formed and dried after mixing to provide gas tight and impact resistant panels of a combustion chamber, and

means for connecting said panels with each other at their mating joints to provide a gas tight high temperature combustion chamber.

13. A universal combustion chamber as set forth in Claim 12 wherein said top panel and said floor panel further includes sealing grooves.

14. A universal combustion chamber as set forth in Claim 12 wherein said sidewall panel means comprise a

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single open U-shaped panel adapted to seal against said top and said floor panels.

15. A universal combustion chamber as set forth in Claim 12 wherein said sidewall panel means comprises a plurality of flat panels sealed at their mating joints to form a gas tight combustion chamber.

16. A universal combustion chamber as set forth in Claim 12 wherein said means for connecting panels comprises flat mating joints, and

a self hardening high temperature adhesive applied in said joints to further assure a gas tight seal.

17. A universal combustion chamber as set forth in Claim 16 which further includes a male and a female shape locking joint to further assure a gas tight seal.

18. A universal combustion chamber as set forth in Claim 15 which further includes corner reinforcing means attached to corners of said sidewall panels.

19. A method of making a universal gas combustion chamber for use as a component of a fireplace unit, comprising the steps of:

mixing vitreous alumina fibers with an aqueous solution of silica binder to form a thick castable slurry,

forming said thick castable slurry on a forming mold to build up a desired predetermined thickness combustion chamber,

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drying said formed combustion chamber to

provide an uncured one piece combustion chamber,

stripping away the forming mold, and

heating said uncured one piece

combustion chamber at firing temperature to form a non-

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porous impact resistant combustion chamber ready for

installation in a fireplace.

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